

**WHAT IS CLAIMED:**

1           1       1. A liner for a shaped charge comprising:

2           a mixture of powdered heavy metal and powdered binder metal formed into a rigid body

3       wherein

4           the percentage of heavy metal in the mixture is within a range of approximately 90.0% to

5       99.98% by weight.

1           1       2. A liner for a shaped charge according to claim 1 wherein

2           the heavy metal powder is chosen from the group consisting of tungsten, tantalum, hafnium,

3       silver, gold, platinum, copper, or any mixture thereof.

1           1       3. A liner for a shaped charge according to claim 1 wherein

2           the heavy metal consists essentially of tungsten.

1           1       4. A liner for a shaped charge according to claim 1 wherein

2           the percentage of heavy metal in the mixture is within a range of approximately 99.0% to

3       99.98% by weight.

1           1       5. A liner for a shaped charge according to claim 1 wherein

2           the binder metal is chosen from the group consisting of copper, lead, zinc, tin, and bismuth.

1       6. A liner for a shaped charge according to claim 1 wherein  
2       the binder metal consists essentially of lead.

1       7. A liner for a shaped charge according to claim 1 wherein  
2       the mixture further comprises approximately 0.02% to 1.0% lubricant by weight.

1       8. A liner for a shaped charge according to claim 7 wherein  
2       the lubricant comprises powdered graphite.

1       9. A liner for a shaped charge according to claim 7 wherein  
2       the lubricant comprises oil.

1       10. A liner for a shaped charged according to claim 1 wherein  
2       the percentage of heavy metal in the mixture is approximately 93.0%..

1       11. A liner for a shaped charge comprising:  
2       heavy metal powder, coated with a binder metal, formed into a rigid body.

1       12. A liner for a shaped charge according to claim 11 wherein  
2       the heavy metal powder is chosen from the group consisting of tungsten, tantalum, hafnium,  
3       platinum, silver, gold, copper, or any mixture thereof.

1       13. A liner for a shaped charge according to claim 11 wherein  
2       the heavy metal comprises tungsten.

1       14. A liner for a shaped charge according to claim 11 wherein  
2       the binder metal is chosen from the group consisting of copper, tin, zinc, lead, bismuth or  
3       any mixture thereof.

1       15. A liner for a shaped charge according to claim 11 wherein  
2       the percentage of heavy metal in the heavy metal powder is within a range of approximately  
3       90.0% to 99.98% by weight.

1       16. A liner for a shaped charge according to claim 11 wherein  
2       the percentage of heavy metal in the heavy metal liner is approximately 93.0%..

1       17. A liner for a shaped charge according to claim 11 wherein  
2       the percentage of heavy metal is within a range of approximately 99.0% to 99.98% by  
3       weight.

1       18. A liner for a shaped charge according to claim 11 wherein  
2       the heavy metal powder, coated with binder metal, is mixed with approximately 0.02% -  
3       1.0% lubricant by weight.

1 19. A liner for a shaped charge according to claim 18 wherein  
2 the lubricant comprises powdered graphite.

1 20. A liner for a shaped charge according to claim 18 wherein  
2 the lubricant comprises oil.

3 21. A liner for a shaped charge comprising:  
2 a mixture of powdered heavy metal, powdered metal binder, and a heavy metal powder  
3 coated with a binder metal formed into a rigid body.

1 22. A liner for a shaped charge according to claim 21 wherein  
2 the rigid body is substantially conical.

3 23. A liner for a shaped charge according to claim 21 wherein  
2 the rigid body is substantially conical.

1 24. A liner for a shaped charge according to claim 21 wherein  
2 the rigid body is substantially conical.

1 25. A liner for a shaped charge according to claim 21 wherein  
2 the percentage of heavy metal in the mixture is within a range of approximately 90.0% to  
3 99.98% by weight.

26. A liner for a shaped charge according to claim 21 wherein the percentage of heavy metal in the mixture is approximately 93.0%.

27. A liner for a shaped charge according to claim 21 wherein the heavy metal powder is chosen from the group consisting of tungsten, tantalum, hafnium, gold, platinum, copper, or any mixture thereof.

28. A liner for a shaped charge according to claim 21 wherein the heavy metal consists essentially of tungsten.

29. A liner for a shaped charge according to claim 21 wherein the percentage of heavy metal in the mixture is within a range of approximately 99.0% to 99.5% by weight.

30. A liner for a shaped charge according to claim 21 wherein the binder metal is chosen from the group consisting of copper, lead, zinc, tin, and bismuth.

31. A liner for a shaped charge according to claim 21 wherein the binder metal consists essentially of lead.

32. A liner for a shaped charge according to claim 21 wherein the mixture further comprises approximately 0.02% to 1.0% lanthanum.

1       33. A liner for a shaped charge according to claim 21 wherein  
2       the lubricant comprises powdered graphite...

1       34. A liner for a shaped charge according to claim 21 wherein  
2       the lubricant comprises oil

1       35. A liner for a shaped charge according to claim 21 wherein  
2       the mixture is compressively formed

1       36. A liner for a shaped charge according to claim 1 wherein  
2       the mixture is compressively formed.

1       37. A liner for a shaped charge according to claim 11 wherein  
2       The mixture is compressively formed.